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ISSUED BY

THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume XIII Number 7

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BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

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DISEASES OF VEGETABLES

CANNERS' CROP DISEASE SURVEY IN NEW YORK

In company with Mr. H. J. Lee and Mr. B. H. Davis who are assisting in the plant disease survey work this summer, we left Ithaca Monday morning, July 22 for a week's trip throughout the canners' crops section of the State.

We visited a considerable number of pea fields in the vicinity of Geneva on Monday and then took our way through Naples, Atlanta, Dansville, Mount Morris, LeRoy and Batavia, where we saw not only many fields of peas but also some bean fields. From Batavia we went northwest to Lockport where we entered the tomato growing section, traveling east through Middleport, Albion, Holly, Brockport, Ontario, Williamson and Alton, giving most of our attention to the tomato crops, though some fields of beans and sweet corn were also examined. We continued west through Oswego, Camden, Canastota, Cortland and back to Ithaca, examining fields of beans and peas. We covered more than 500 miles of territory and examined approximately a total of 100 fields of crops of various kinds including a short inspection of the muck fields near Elba, New York.

PEAS.

Canners' peas have been very severely affected with disease this season. The yield has been very low and frequently of poor quality. The principal diseases responsible of this condition have been Aphanomyces root rot (A. euteiches) and Mycosphaerella blight (M. pinodes). The former was especially destructive in the early peas as a result of the wet weather immediately preceding and just following planting. The latter was severe on late peas.

BEANS

For comparison with canners' beans a number of fields of dry beans were examined in the western part of the State. These were especially clean and free from bacterial blight and mosaic, one of the most encouraging results of the sustained efforts of the past ten years on the part of plant pathologists and breeders at the Cornell and Geneva Experiment Stations in introducing and developing mosaic and blight resistant varieties of field beans. The Fusarium root rot, however, was very general and severe in many of the fields, especially in the region between Dansville and LeRoy.

Canners' beans throughout the regions visited were much more severely affected by disease than were the field beans. Mosaic was rampant, only a few fields having been examined which were free from this disease. Several fields showed practically 100 per cent infection. The plants were badly dwarfed, the younger leaves showing the symptoms most typically. It was very clear from our observations that the seed stocks used for these beans contained a high percentage of mosaic infected seed. It was not possible to determine the source of this seed in most cases since the canners bought it from seedhouses and have no record of the place where it was grown. At least some of it was western-grown. The majority of the fields showed an average of 10 to 25 per cent of the mosaic. Fusarium root rot was occasionally found to be severe in canners' beans but in general they were much freer from this disease than were the field beans. The common bacterial blight (Bacterium phaseoli) of beans was observed in a few fields where it was just beginning to spread. The halo blight (B. medicaginis phaseolicola) was found rather frequently in field beans and occasionally in canners' beans. The systemically infected plants which had developed from diseased seed showed up strikingly wherever the halo blight occurred. Primary infections from these systemically infected plants were abundant on the leaves of healthy plants in the immediate neighborhood. No trace of anthracnose (Colletotrichum lindemuthianum) was found in any of the bean fields. This is undoubtedly due to the dry weather which has prevailed throughout the section almost since the beans were planted.

TOMATOES

Canners' tomatoes were "disgustingly healthy". Contrary to our expectations mosaic was almost entirely absent from most of the tomato fields though we frequently found an occasional plant showing the characteristic mottling and oftentimes the familiar fern-leaf type of the disease. Several fields near Geneva showed from 1 to 10 per cent fern-leaf infection. The plants in all cases came from the same greenhouse. No trace of Macrosporium leaf spot (M. solani) was found in any field. In the neighborhood of Lockport Septoria lycopersici was fairly general but just beginning to develop on the lower leaves. The percentage of infected plants was usually small but in one or two fields counts showed it to be as high as 20 to 30 per cent. There is every probability that this disease will be general and severe in the Lockport section. Septoria blight was not found in any of the fields east of Lockport.

SWEET CORN

No diseases of importance were observed on the sweet corn fields visited. The crop is rather young yet for satisfactory disease survey.

LETTUCE

While we stopped at three muck crop field laboratories, Elba, Williamson and Oswego, actual field inspection was restricted to an hour or so on the muck at Elba. Reports of the field fellowship men in these laboratories, however, indicate that bottom rot (Corticium vagum) of lettuce is general and especially severe this season. The losses on the average range about 50 per cent and in many fields there was approximately a total loss for the recent cutting. This is rather extraordinary in view of the fact that these muck sections have had relatively little rain this season. Aster yellows of lettuce has made its appearance in all of the muck areas much earlier this year and promises to become very destructive. Mosaic is also common, and a small amount of drop (Sclerotinia) was observed in the lettuce at Elba.

ONION

Onion mildew (Peronospora schleideni) which for the past three or four years has been very severe on muck lands, has not appeared as yet this season. Onion smut (Urocystis cepulae) is prevalent in the Elba and Williamson area, percentages of infection have not yet been determined. Excellent control of this disease by standard methods has been obtained and the losses from the disease will probably not be high. (H. H. Whetzel and J. G. Horsfall)

POTATO LATE BLIGHT (PHYTOPHTHORA INFESTANS)

West Virginia: In general, late blight has not been to date a serious factor. However, in a rather limited area in the extreme southeastern part of the State, the late blight was well established in the early part of July. In the section mentioned showery and hot weather prevailed during June. (E. C. Sherwood, July 30)

Wisconsin: Reported in Langlade and Oneida Counties on July 15. Now effectually checked by dry weather. Spraying with Bordeaux is standard practice. (R. E. Vaughan, Aug. 5)

Minnesota: First observed on peat land in Sherburne County on July 25. This is the earliest report on record for Minnesota. Its occurrence is not yet widespread. (L. Dosdall, Aug. 1)

HOPPERBURN SEVERE ON POTATOES IN SOME SECTIONS

New Jersey: More abundant than usual. Unsprayed fields died 3 weeks earlier than those sprayed with Bordeaux mixture. Present indications are that the insect will cost the New Jersey potato growers at least two million dollars. (W. H. Martin, July 27)

West Virginia: On early potatoes hopperburn has been quite general and destructive throughout most of the state. Very good growing conditions in early spring was followed by a very dry and warm June and part of July. (E. C. Sherwood, July 30)

Wisconsin: Early potatoes suffering badly. Hoppers just coming on late variety. Spraying with Bordeaux is recommended. (R. E. Vaughan, Aug. 5)

Minnesota: Of general occurrence on light sandy soils. (L. Dosdall, Aug. 1)

OTHER POTATO DISEASES

Stem rot (Corticium vagum)

In New Jersey there is much less stem cankering this year than last. The difference is no doubt due to heavy rains following planting this year. The soil moisture content was high until the plants were up. (W. H. Martin, July 27)

Stem rot is severe in the peat soils of Iowa. Stem lesions are common and many plants have been killed. (R. H. Porter, July 26)

Leaf roll (virus)

Very prevalent in Maryland this year in home-grown uncertified seed both in Cobbler variety in Worcester and Somerset Counties and in Rural variety in Garrett County. Losses in diseased Cobbler fields 15 to 50 per cent. In fields grown from home-grown and northern certified seed the losses were very small. (R. A. Jehle, Aug. 6)

In Iowa this disease is common in fields where the seed has never been grown in seed plots in which roguing was practiced. Seed from seed plots showed much less leaf roll. (R. H. Porter, July 19)

Scab (Actinomyces scabies)

More than in past two years in New Jersey due to very dry condition during period of tuber formation. (W. H. Martin, July 27)

DISEASES OF SWEET POTATO

"A monographic study of sweet potato diseases and their control" by L. L. Harter and J. L. Weimer of the Bureau of Plant Industry, has been issued as U. S. Department of Agriculture Technical Bulletin No. 99. It should prove to be extremely useful to collaborators in sweet potato states or to persons interested in diseases of this crop.

DISEASES OF CUCURBITS

Downy mildew (Pseudoperonospora cubensis)

Delaware: First appeared on maturing crop of cucumbers and during last week of July was well established on cantaloupe and watermelon. It will prove the most disturbing disease on cantaloupe this season. (J. F. Adams, Aug. 5)

Maryland: Unusually prevalent and destructive in cantaloupe fields in Worcester County. It was most destructive in unsprayed and undusted fields. Losses were much smaller in fields which received a regular spraying or dusting application with Bordeaux. Cantaloupes grown in diseased fields were of poorer quality and smaller than those grown in healthy fields. (R. A. Jehle, Aug. 6)

Virginia: Severe on 100 acres of cucumbers distributed in about 50 fields in Prince Edward County. The crop was roduced about 25 per cent. (J. Godkin, Aug. 1)

Texas: Very prevalent on cantaloupe this year in lower Rio Grande Valley. Twenty per cent loss. (J. J. Taubenhaus, Aug. 1)

Mosaic (virus)

New York: Mosaic is very prevalent this season upstate on nearly all types of cucurbit crops. A survey in Monroe County showed that a large percentage of this mosaic of outdoor crops apparently came from infected catnip. A campaign against catnip and milkweed is being waged by the County Agent apprently with good success. (C. Chupp, July 29)

Maryland: Very prevalent in Wicomico County early in the season. In fields where weed carriers were removed from adjoining premises and where roguing was practiced early in the season losses from mosaic were negligible. In fields where this was not done losses were more or less severe varying from 5 to 25 per cent. (R. A. Jehle, Aug. 6)

Powdery mildew (Erysiphe cichoracearum)

New York: Nearly all the greenhouses about Irondequait, Monroe County, have powdery mildew very badly in their cucumber vines. The loss in these varies all the way from 10 per cent to 90 per cent with an average of more than 50 per cent. It came suddenly about the middle of July. In only one case did there seem to be any control and this was obtained by spraying with Bordeaux mixture and a high pressure sprayer. The plants were sprayed at weekly intervals beginning as soon as they were set into the house. This spray had been applied for the control of scab but seemed effective against the powdery mildew. (C. Chupp, July 29)

Anthracnose (Colletotrichum lagenarium)

Texas: Very prevalent on watermelon all over the state. Serious on leaves, causing premature dying. Ten per cent loss. (J. J. Taubenhaus, Aug. 1)

BACTERIAL BLIGHT (UNDET.) OF BEAN IN OREGON

Serious spotting infections on early foliage of beans in some fields in Columbia County appeared to be due to seed-borne bacterial infection which attacked the plants during wet weather as the plants emerged. Only a certain seed lot seems to have been giving this trouble but it appeared in three fields from the same seed. Dry hot weather later checked the outbreak. (H. P. Barss, July 24)

DISEASES OF COTTON AND TOBACCO

PHYMATOTRICHUM OMNIVORUM ON COTTON IN ARKANSAS

What seems to be the first authentic report of the presence of this disease in Arkansas has been sent in by V. H. Young (July 26).

"Mr. Alfred Hale, Smith Hughes Teacher at Foreman, Arkansas, in Little River County, recently sent in three specimens of cotton which the writer identified as being affected with Texas root rot, the fungus present on the roots showing the typical acicular hyphae characteristic of the fungus. Specimens were sent to Mr. B. F. Dana, Plant Pathologist of the Sub-station at Temple, Texas, who has confirmed the writer's diagnosis. It appears that this is the first definite report of this disease in Arkansas although its presence has been suspected for a number of years. Specimens were taken from a black, waxy type of river valley soil, apparently very similar to that in which the disease is prevalent in Texas."

TOBACCO DISEASES IN MARYLAND AND VIRGINIA

R. A. Johle (August 6) and James Godkin (August 8) have reported on tobacco diseases from Maryland and Virginia, respectively. The notes for plant beds in Virginia were taken from April 29 through the middle of June.

Maryland: Wildfire (Bacterium tabacum) was found on lower leaves of most plants in all fields which were inspected. Losses at present are slight. Losses in the field will undoubtedly be large if there is a rainy period before the crop is harvested.

Plants infected with mosaic were found in practically all fields inspected. In some many infected plants were found and the losses will be large. In most of them the number of infected plants was not very large and losses will be moderate.

Virginia: One hundred and fifty-three tobacco plant beds, totalling 22,650 square yards were inspected in 11 counties. Blackfire (Bacterium angulatum) was found in the following counties: Mecklenburg, two beds, a trace in both beds; Prince Edward, one bed, considerable; Appomattox, one bed, slight amount; Pittsylvania, six beds, considerable in all beds; Washington, seven beds, considerable in all beds; Bedford, three beds, considerable in all beds. Found in the field in Prince Edward and Brunswick Counties in slight amounts.

Wildfire (Bacterium tabacum) was found only in one bed in Pittsylvania; about 25 per cent of the plants were infected.

Granville wilt (Bacterium solanacearum) found in one seven-acre field of tobacco in Brunswick County. This disease occurred in spots and about 15 per cent of the plants were affected. Tobacco had been grown continuously on the land for seven years, no other crops serving in a rotation.

Ringspot found in one five-acre field of tobacco in Prince Edward County. About 25 per cent of the plants in the field were affected.

HAIL INJURY TO TOBACCO IN CONNECTICUT

The hail storm of August 1 was the most severe the State has had, at least in years. Damage in the Connecticut Valley, chiefly to the tobacco crop, but vegetables also suffered injury. It was a widespread storm in general vicinity of Hartford. Hail stones as big as eggs fell and caused considerable injury to glass in greenhouses, to glass and tops of automobiles, etc. Damage to tobacco crop estimated at $1,000,000. Shade tobacco had been partly harvested and was somewhat protected by tents, but tobacco in open fields was ruined when the hail fell. (G. P. Clinton, Aug. 5)

FRUIT DISEASES

APPLE SCAB (VENTURIA INAEQUALIS)

Maryland: Very prevalent on leaves and fruit in all unsprayed and undusted orchards. In sprayed and dusted orchards it varies from very slight to very prevalent. In most orchards there is at least a moderate infection on both leaves and fruit. Control of scab was made difficult by the extremely rapid development of the buds in the spring followed by maximum ascospore discharge while the blossoms were open. (R. A. Jehle; Aug. 6)

CONNECTICUT REPORTS ON APPLE DISEASES

Under date of August 1, E. M. Stoddard of the Connecticut Experiment Station at New Haven reported as follows:

Scab (Venturia inaequalis)

Ascospores began maturing about two weeks earlier than usual and were unusually abundant. Due to the special telephone spray service warnings most orchards are quite free from this disease. Unsprayed or carelessly sprayed orchards have heavy infection. More severe infection on Baldwins than usually noted.

Black rot (Physalospora malorum)

Foliage infection present in most orchards but not as plentiful as usual; heaviest infections on trees in poor condition. Baldwin especially susceptible.

Powdery mildew (Podosphaera leucotricha)

More common than usual this year but not causing serious injury in any case. Most commonly observed on Baldwins.

Rust (Gymnosporangium juniperi-virginianae)

This disease has been very light this year probably less than normal amount of infection even on the more susceptible varieties.

BITTER ROT AND BLOTCH OF APPLE IN ARKANSAS

V. H. Young reports as follows under date of July 26:

Bitter rot (Glomerella cingulata)

Appeared at an unusually early date this year, some being present in late June, and there was considerable spread during the wet weather of early July. However, the weather for some time has been very dry and spread of bitter rot was promptly checked with the advent of dry weather so that now the prospect is that damage from this disease will be only nominal.

Blotch (Phyllosticta solitaria)

There are considerable amounts of blotch this year, especially in unsprayed and poorly sprayed orchards. However, with the advent of the dry weather which we are having at present there appears to be very little spread.

PEACH BROWN ROT (SCLEROTINIA FRUCTICOLA)

Connecticut: In spite of the dry weather there is some rot of the green fruit. (G. P. Clinton, Aug. 1)

Delaware: About the usual prevalence but not affecting the commercial crop. (J. F. Adams, Aug. 5)

BACTERIAL SPOT OF PEACH (BACTERIUM PRUNI)

Delaware: Very slight this season. Fruit infection is very light and will not effect commercial grading. Cool weather early in growing season and exceptionally dry during July would appear to be factors this season against the usual development of this disease. (J. F. Adams, Aug. 5)

North Carolina: Very prevalent in the orchards visited during the course of the summer meeting July 29-31. As was to be expected it was very closely associated and complicated with weakened conditions of the trees induced by lack of fertility, winter injury, and poor growing conditions. An estimate of damage cannot be made on account of these other factors that not only reduce yields in themselves but also render the trees more susceptible to the attacks of B. pruni. It seems evident however that most of the fruit spotting was due to the Bacterium. One large grower near Hamlet stated that out of about 1,000 cars of peaches shipped from Hamlet this year only about 40 cars were good enough to meet the U. S. grade No. 1. The others were shipped out of grade. (R. J. Haskell)

POWDERY MILDEW OF PEACH (SPHAEROTHECA PANNOSA)

Excellent specimens of powdery mildew on the fruit of peach were received August 5 from Salt Lake City, Utah. Seventy-five per cent of the fruit in the orchard from which these specimens came was said to be similarly affected. A report of its occurrence near Phoenix, Arizona, in May is also at hand.

CORYNEUM BLIGHT ON CHERRY

Oregon: In Union County a scattered outbreak of this disease occurred in sweet cherries as well as other host fruits. The heaviest infections occurred in the Fruitvale section near LaGrande. In one 8 or 10 acre orchard of Royal Anne (Napoleon) and Lambert cherries, a loss of 50 per cent due to damage from fruit spot occurred. Wet weather in mid June was probably a contributing factor to the outbreak. The identity of the disease was checked by cultures from fruit. (H. P. Barss, July 24)

SMALL FRUIT DISEASES IN WASHINGTON

From the State of Washington, L. K. Jones reports on some of the diseases of small fruits that he has been observing (June 28).

Cherry

Leaf spot (Coccomyces hiemalis)

A slight amount of this disease was found on Montmorency cherries in vicinity of Sumner. Leaf spot was abundant on one Montmorency orchard near Bellingham. The disease caused extreme defoliation on this orchard the previous season. Two other cherry orchards in vicinity of Bellingham showed practically no leaf spot.

Silver leaf (Stereum purpureum)

Found on 2 per cent of trees in a five-acre Montmorency orchard in the vicinity of Sumner. Also noted in an orchard near Everett.

Strawberry

Leaf spot (Mycosphaerella fragariae)

Abundant and damaging on one planting near Bellingham. Other plantings in vicinity of Mt. Vernon and Bellingham the disease was generally present but of minor importance.

Winter injury

Many of the plantings in vicinity from Everett to Bellingham were heavily injured. In many cases this was correlated with the presence of the strawberry weevil and mole tunnels around the plants.

Gooseberry

Leaf spot (Mycosphaerella grossulariae)

Found abundantly in the vicinity of Bellingham. Considerable defoliation had taken place at harvest time.

RASPBERRY DISEASES IN ILLINOIS

On July 25, H. W. Anderson sent in the following notes for Illinois:

Anthracnose (Plectodiscella veneta)

Quite abundant but not causing more than the usual amount of damage since the season has been unusually wet.

Leaf curl (virus)

Not much worse than usual. Numerous complaints have been received due to unusual market value of this crop.

Premature dying (undet.)

The condition which caused most complaint this year was the premature dying of the fruiting canes before the fruit ripened. As a consequence the fruit dried before ripening. Many black raspberry patches did not yield a berry. This was not due to dry weather since this has been an extremely wet season. Also occurred in an irrigated patch.

WANTED

LEAF SPOTS OF APPLE

The Plant Disease Survey would appreciate receiving fresh material from any of the collaborators.

DISEASES OF CEREALS

BARLEY SCAB (GIBBERELLA SAUBINETII) IN ILLINOIS

My report of July 1 stated that following an inspection of the barley fields in northern Illinois I did not look for so severe an epidemic of barley scab as we had last year. Since then, Mr. L. R. Tehon has made a trip through the same general territory and reports that they have had a great deal of rain and that barley scab has developed to practically 100 per cent prevalence in most fields. (G. L. Stout, July 23).

DISEASES OF BARLEY IN WISCONSIN

Stripe (Helminthosporium graminium). Less than last year. Well controlled by ceresan dust seed treatment.

Stem rust (Puccinia graminis). Present in most fields. Not a cause of much loss.

Covered smut (Ustilago hordei). Less than last year. Well controlled by both ceresan or formaldehyde treatment.

Loose smut (Ustilago nuda). Not as much as last year but considerable in some fields (10 to 15 per cent). One case of Minnesota Velvet barley reported where control was obtained by formaldehyde seed treatment. Seed from same lot treated with ceresan gave no control. Other reports on ceresan were all negative.

(R. E. Vaughan, August 5).

WHEAT LOOSE SMUT (USTILAGO TRITICI)

Arkansas: Practically always present in wheat plantings in northwest Arkansas and causing a small but appreciable loss. (V. H. Young, July 11).

Pennsylvania: Severity of loose smut in different varieties of wheat: Velvet Chaff, 7.1 per cent; Red Rock, 6.3 per cent; Pennsylvania 44, 2.7 per cent; Fultz, 2.2 per cent; Leap, 0.1 per cent; Forward, 0.02 per cent. (Kirby and Zundel, July 11).

Kansas: Loose smut was more prevalent than usual in Kansas in 1929. Infection was heaviest in northeastern part of the state. Some fields of Harvest Queen had about 1 per cent of smutted heads. (C. O. Johnston, August 1).

Iowa: Common but not serious. Two per cent infection. (R. H. Porter, July 26).

Wisconsin: Less than last year. Not serious in most fields. (R. E. Vaughan, August 5).

Minnesota: Usual amount - about 1/2 per cent. (Section of Plant Pathology).

Montana: In numerous fields examined there was 1 per cent loose smut. (H. E. Morris, July 10).

WHEAT NEMATODE (TYLENCHUS TRITICI) IN VIRGINIA

In Loudoun, Prince William and Rappahannock counties, a trace of nematode was found in four fields totaling 80 acres, two fields being in Prince William county. This disease has been reported from Albemarle, Rockingham, and Shenandoah counties also. (James Godkin, August 8).

DISEASES OF OATS IN IOWA AND KANSAS

Iowa

Crown rust, (Puccinia coronata). Severe this year, much more prevalent than in 1928.

Stem rust (Puccinia graminis). Trace on all varieties observed.

Smut (Ustilago avenae). About 4 per cent infection for the state. Dust treatments with Ceresan and Corona Oats Dust gave good control.

Blast (Unknown). This trouble seemed to be more severe than usual this season.

(R. H. Porter, August 8).

Kansas

Halo blight, (Bacterium coronafaciens). Halo blight was less prevalent than usual this year, only traces of it having been seen. A moderate amount occurred on hull-less oats in experimental sowings at Manhattan.

Ergot (Claviceps purpurea). An occasional head containing one or two sclerotia was found in experimental sowings at Manhattan.

Crown rust (Puccinia coronata). Crown rust infection developed late in Kansas this year, but was very heavy before the crop matured. Considerable damage was reported in late oats in eastern Kansas. The red oats such as Kanota and Fulghum were very heavily attacked. No infection could be found on Rhamnus cathartica at Manhattan. Infection apparently all from a uredinial source.

Stem rust (Puccinia graminis aveane). Stem rust developed in Kansas oats very late this year. Losses were, therefore negligible. Considerable stem rust developed on red oats in the vicinity of Manhattan just before maturity.

Smut (Ustilago avenae and U. levis). Smut was very prevalent in Kansas this year, some fields having as much as 25 per cent of the heads smutted. The physiologic form which attacks Fulghum and Kanota is spreading rapidly northward and westward. Kanota fields as far north as Manhattan had considerable smut this year. Ceresan dust treatments gave excellent control. The dry formaldehyde also gave excellent control.

Blast. Blast was severe in Avena sativa type oats in experimental sowings at Manhattan. The red oats group was very lightly attacked, there being only small amounts of blast in Fulghum and Kanota.

(C. O. Johnston, July 30).

DISEASES OF BARLEY IN IOWA AND KANSAS

Iowa

Stripe (Helminthosporium gramineum). Serious in Iowa this year. Velvet barley very susceptible. In some fields 30 per cent of the plants killed. Ceresan gave excellent control on all plots. Average loss for the state at least 8 per cent.

Leaf spot (Helminthosporium sativum). More severe this year than in an average season. Some fields showed 50 per cent infection.

Net blotch (Helminthosporium teres). Common this season but not destructive.

Stem rust (Puccinia graminis). About 5 per cent infection found on barley this year.

Leaf rust (Puccinia simplex). Leaf rust was common but not serious.

Covered smut (Ustilago hordei). The highest percentage of covered smut found was 12 on Manchuria barley. The average loss this season was a trace. Ceresan gave satisfactory control.

Loose smut (Ustilago nuda). This smut is more common than usual. Velvet barley showed from 8 to 10 per cent infection. Other common varieties had from 2 to 5 per cent.

(R. H. Porter, July 26).

Kansas

Ergot (Claviceps purpurea). A few ergoted heads of barley were found in nursery sowings at Manhattan.

Powdery mildew (Erysiphe graminis). Powdery mildew was very severe on varieties of barley in nursery sowings at Manhattan.

Scab (Gibberella saubinetii). Scab was severe in nursery sowings at Manhattan this spring. Certain strains of Stavropol and Club Mariout had 25 per cent of the heads infected.

Stripe (Helminthosporium gramineum). Stripe was moderate in Club Mariout and Stavropol in nursery sowings at Manhattan. Other varieties were only slightly infected or free from the disease. Considerable stripe occurred in fields of barley in Rawlins County.

Spot blotch (Helminthosporium sativum). Spot blotch was common and rather severe on barley varieties in nursery sowings at Manhattan. Considerable was also seen at Hays in Ellis County.

Net blotch (Helminthosporium teres). Net blotch was common on barley varieties in nursery sowings at Manhattan.

(C. O. Johnston, July 24).

HELMINTHOSPORIUM GRAMINEUM ON BARLEY

In a recent work by Noel J. G. Smith (Observations of the Helminthosporium Diseases of Cereals in Britain I. The Behavior of Helminthosporium gramineum in a common barley disease. Ann. Appl. Biol. 16: 236-260. 1929) it was concluded that the old view of infection spreading from the growing point of the stem to leaves and other parts is untenable. Instead it is claimed that the leaves are first infected and that the stem apex became affected only in final stages of the disease.

CORN DISEASES IN KANSAS

Rust (Puccinia sorghi). Corn rust is rather prevalent in the vicinity of Manhattan, having appeared about the middle of July. At present the dry weather is holding the rust in check and drying up the corn leaves.

Smut (Ustilago zeae). Only a moderate amount of smut is present in corn in the vicinity of Manhattan at present. Cool wet weather in May and June reduced early infection. The hot dry weather of the last half of July

and first week of August may result in considerable late season infection.

Root rot. Only a few reports of root rot have been received so far this season. A few cases have been reported in eastern Kansas. This has been a poor season for corn. Extremely wet weather caused late planting and much replanting. Very poor stands were secured in many localities. Mercury dust treatments did not seem to increase stands materially except in the northeastern part of the state where losses from seedling blight were most severe. (C. O. Johnston, August 1).

DISEASES OF ALFALFA

Aplanobacter insidiosum (Bacterial wilt and root rot).

This disease continues to be the most destructive disease of alfalfa in Kansas. This is especially true when the usual accompanying winter injury is considered. Serious losses in stand have occurred especially in fields more than three years old. Great difficulty is still being encountered in reestablishing the crop. (C. O. Johnston, July 30).

The occurrence of this disease is reported for the first time in Oregon by H. P. Barss.

Peronospora trifoliorum (Downy mildew).

Downy mildew was rather severe in certain localities of Kansas causing defoliation of the first crop. Later crops showed no mildew. Some plats lost as much as 20 per cent of the leaves in May at Manhattan. Severely attacked fields could be identified at some distance by their sickly yellow appearance. (C. O. Johnston, August 1).

Phymatotrichum omnivorum (Root rot).

Loss, 20 per cent in Texas. (J. J. Taubenhaus, August 1).

Drouth conditions.

Drouth conditions in Connecticut have caused some yellowing of leaves in the second crop according to G. P. Clinton; while in Wisconsin, the same conditions have caused "chaffy top" which is quite evident on sandy soils but not on heavy soils according to R. E. Vaughan.

DISEASES OF ORNAMENTALS AND OTHER PLANTS

NEMATODE OF PHLOX

On August 2, Elizabeth H. Smith of the University of California wrote that as early as May, 1924 she found stem nematode of phlox (presumably Tylenchus dipsaci) in a garden at Berkeley, California. It caused a "stringing" and distortion of the leaves. This is the only instance of occurrence that she has noticed.

NEW DISEASES OF ORNAMENTALS FOR THE UNITED STATES

A number of specimens have been received of diseases that seem not to have been reported in this country previously. The determinations were made by the writer.

Ascochyta iridis Oud., leafspot on the Iris germanica, Washington, D. C., June 14. Previously reported on Iris pseudoacorus in Holland.

Colletotrichum pollaccii Magnaghi, anthracnose on Aucuba japonica, Durant, Mississippi, July. Received from L. E. Miles. Reported from Japan.

Phyllosticta aucubae Sacc. and Speg., leaf spot on Aucuba japonica, Durant, Mississippi, July. Received from L. E. Miles. On leaves of A. japonica in Italy.

(G. Hamilton Martin, August 12).

TWO FUNGI ON CARTHAMUS TINCTORIUS

Specimens of diseased Carthamus tinctorius (safflower) collected by A. A. Hansen at Lafayette, Indiana, July 13, were received through Frank Rabak of the Office of Drug, Poisonous and Oil Plants. Examination by the writer showed the presence of two fungi which have not hitherto been reported on this plant in this country. One is Septoria carthami Murashkinsky which was described from Russia in 1927. The other is a Phoma sp.

(G. Hamilton Martin).

DISEASES OF TREES

COLEOSPORIUM SOLIDAGINIS ON RED PINE IN CONNECTICUT

This rust was more abundant than ever before on this host in the state. It attracted the attention of quite a few people who thought it a serious pest. It has only been known on Pinus resinosa a few years here, but apparently is becoming common in the plantations. (G. P. Clinton, August 1).

FURTHER NOTES ON WILLOW SCAB

Fusicladium saliciperdum:

In Connecticut, May was favorable for its start, but dry June held it somewhat from being as severe as last year though it was much more prevalent. Survey of the state in July showed it all over on the bush willows but severe on planted willows only in the northwestern part of state except in one or two instances. Have not yet found it on Salix babylonica though it has been found on two other species of weeping willows. Have seen and heard of the scab as more general this year in Maine, New Hampshire, Massachusetts, Rhode Island, New York as far west as Ithaca, and in Canada as far north as the Gaspe Peninsula. Have not yet succeeded in locating the asco stage. A very suspicious Venturia on Salix leaves was obtained by Dr. McCormick from single spore cultures and found to be connected with a Cladosporium. Our inoculation experiments this year both indoors and out, further verify our conclusions that Fusicladium saliciperdum is the primary cause of the disease. (G. P. Clinton, August 1).

SPECIMENS RECEIVED

Except where noted, collections and determinations were by G. Hamilton Martin.

Cladosporium herbarum (Pers.) Lk. on Hydrangea sp. Sussex, New Jersey. Received from R. P. White, August 9. First report to Plant Disease Survey from this state.

Uncinula australiana McAlp., powdery mildew on Lagerstroemia indica, Washington, D. C. Received from Miss E. M. Bayliss, August 12. First report to Plant Disease Survey from the District of Columbia.

Cladosporium herbarum (Pers.) Lk. on Maclura pomifera, Jefferson City, Missouri, July. Collected by A. C. Burrell. First report to Plant Disease Survey from any state.

Phyllosticta maclurae Ell. & Ev., leaf spot on Maclura pomifera, Jefferson City, Missouri. Collected by A. C. Burrill. First report to Plant Disease Survey from this state. Has previously been collected in New Jersey.

Erysiphe cichoracearum DC., powdery mildew on Rudbeckia laciniata, Amherst, Massachusetts. Collected and determined by W. H. Davis, August. First report to Plant Disease Survey from this state.

Cladosporium herbarum (Pers.) Lk. on Viburnum carlesi, Lancaster, Pennsylvania. Collected by J. W. Eshelman, Jr., July 6. First report to Plant Disease Survey from any state.

Phyllosticta concentrica Sacc., leaf spot on Hedera helix, Pascagoula, Mississippi. Received from L. E. Miles, July 27. Determined by W. A. Archer. First report to Plant Disease Survey from this state.

Cladosporium sp., on Juglans nigra, Washington, D. C., June 31. First report to Plant Disease Survey from any state.

Gnomonia leptostyla (Fr.) Ces. & DeNot., anthracnose on Juglans nigra, Washington, D. C., July 31. Heavy defoliation was observed on several trees. First report to Plant Disease Survey from the District of Columbia.

Gnomonia ulmea (Schw.) Thuem., black spot on Ulmus pumila, Pierre, South Dakota. Collected by R. W. Vance, July 20. First report to Plant Disease Survey from any state.

Hypodermella brachysporum Rostr., needle cast on Pinus nigra. Long Island, New York, July. First report to Plant Disease Survey from any state.